NETL Conference "PM2.5 and Electric Power Generation: Recent Findings and Implications"

Tuesday, April 9, 2002

8:15 am - 8:45 am Plenary Session:

Atmospheric Aerosol Science for Public Policy– The NARSTO PM Assessment

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Abstract: NARSTO has just completed its external review draft state-of-science assessment on the processes and source-to-receptor relationships of air borne particulate matter (PM) across North America. The document is going through rigorous peer review and will be released by year's end. Government and industry policy makers and their advisors who must consider how to meet recently adopted PM standards in the US, Canada, and Mexico are the intended audience. This plenary session will offer early insights emerging from the array of science used to solve the PM problem. We will summarize what science can offer to answer pressing policy questions such as: "Where do we have a problem?" "What are its sources?" "What approaches might fix it?" "What is the relationship between the PM problem and other air issues?" and "How will we measure progress?" We bring all disciplines to bear, from measurements and trends, to processes and modeling, to emissions and source apportionment.

Outline of Talk: (Pt 1) NARSTO - Who we are & what we do, (Pt.2) The PM Assessment - What it covers (our focus on policy relevant atmospheric sciences), Who's involved (Co-Authors), and our timetable for review and release, (Pt.3) Events leading up to the current draft - Meeting with the international policy community, the 5 themes discussed and their responses, (Pt. 4) Some subject-to-change previews of answers to the "8 Policy Questions,"and (Pt 5) a few bottom-lines and so-whats such as...

- "We have the ambient methods to measure essentially all presently hypothesized causal agents, though many are more research than routine...meaning >> We think we have a good idea of what is out there; at least for 6 major components over large regions of N. America, and are beginning to get a fix on most of the other potential causal agents for some of the largest urban areas (carbonaceous species being problematic)," and
- "$PM_{2.5}$ mass is dominated by sulfates and carbonaceous material, supplemented mainly with ammonium nitrate and dusts from open sources. The composition varies by region and season. Most inorganic material is secondary with carbonaceous (OC) material in question...meaning >> One size won't fit all. Regional strategies using balanced reductions of secondary precursors will likely be different for eastern and western N. America; and in some cases local reductions of primary emissions may be sufficient," and
- "Chemical transport models and source apportionment techniques, and emissions factors and models they rely on, are available for PM and related air quality problems, though serious evaluation and additional development is needed...meaning >> The scientific tools needed to manage the PM problem are available now for semi-quantitative analysis, but substantial testing and improvements are needed over the next few years to improve the reliability of quantitative projections."